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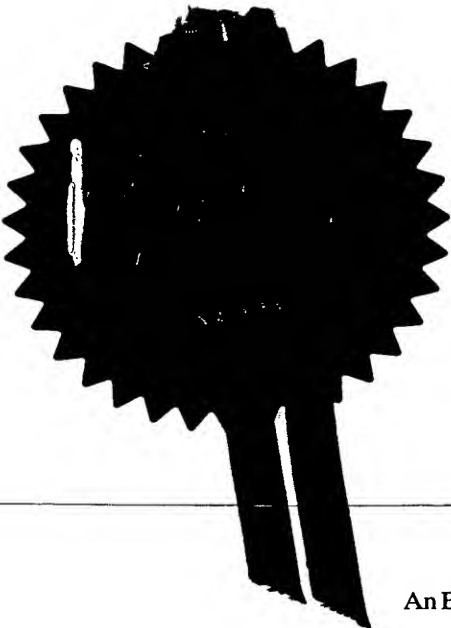
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Signed

Andrew Gersey

Dated

5 September 2000

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The Patent Office

Cardiff Road
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1. Your reference

P/5510

2. Patent application number

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9920979.3

-7 SEP 1999

3. Full name, address and postcode of the or of each applicant (underline all surnames)

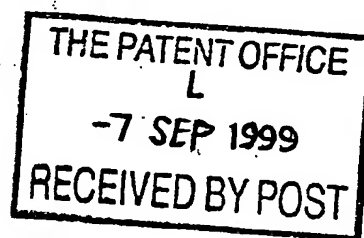
Jaguar Cars Limited,
Browns Lane,
Allesley,
Coventry CV5 9DR

Patents ADP number (if you know it)

S31152001

If the applicant is a corporate body, give the country/state of its incorporation

GB



4. Title of the invention

Fabrication of Veneer Faced Panels

5. Name of your agent (if you have one)

A. Messulam & Co. Limited

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

24 Broadway

Leigh on Sea, Essex SS9 1BN

6288001

Patents ADP number (if you know it)

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number

Country

Priority application number
(if you know it)

Date of filing
(day / month / year)

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application

Date of filing
(day / month / year)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if:

yes

- a) any applicant named in part 3 is not an inventor, or
- b) there is an inventor who is not named as an applicant, or
- c) any named applicant is a corporate body.

See note (d))

FABRICATION OF VENEER FACED PANELS

This invention relates to the fabrication of veneer faced panels, in particular veneer faced panels for mounting in the passenger compartment of a motor vehicle.

It is sometimes desirable for the visible surface of a decorative panel to be covered with a layer of wood veneer, and for the panel to be mounted over a surface. If the side faces of the panel are not covered in veneer, it is important to hide those faces from view so that the less attractive substrate material beneath the veneer cannot be seen. One way to achieve this is for the panel to curve towards the surface on which it is to be mounted, so that when the panel is mounted on that surface, the side faces of the panel where the substrate material is exposed are flat and lie flush against the mounting surface.

In a known way of fabricating such panels, the substrate is formed from a pre-cut metal sheet that is pressed to the required three dimensional shape, following which a sheet of veneer is pressed over the metal sheet. The sheet of veneer is chosen to slightly overlap the metal sheet so that the veneer covers the entire visible surface of the panel when the panel is mounted on a surface. However, fabricating veneered panels in this way can result in the veneer having an visibly uneven surface close to the edge of the panel due to the formation of a recess behind the veneer.

According to the present invention, there is provided a method of producing panels with a veneer face, the method comprising the steps of:

lies next to and substantially coplanar with a flat end face of the blank.

5 Fabrication of veneered panels in this way does not involve pre-cutting a blank with the required contour since the blank is cut to shape by the first press at least in part when it is pressed. Furthermore, the veneer sheet is also cut to shape at least in part by the second press when the second press is closed in
10 order to mould the veneer sheet.

The blank will preferably be formed from a pure metal such as aluminium or a metal alloy and for simplicity the invention will hereafter be described in terms of a
15 metal blank.

It will be understood the terms upper and lower tool are used for convenience and to not limit the relative or absolute positions of the tools, so that for example
20 in the case of the first and the second press the respective shape and role of the upper and lower tools could be inverted, but for simplicity the invention will hereinafter be described in terms of a blank placed on the lower tool of a first and second press.

25 This method conveniently makes use of a flat peripheral region on the lower pressing surface of the first and second press so that the pressed blank and the veneer sheet form flat and substantially co-planar end faces, thereby forming a veneered panel with substantially
30 flat end faces, and reducing the likelihood of a blemish on the visible surface of the veneer sheet due to the formation of a recess beneath the veneer.

35 The flat peripheral regions will preferably be parallel

increase the adhesion of the veneer to the metal.

To help the adhesive layer to adhere to the metal and help the other layers of veneer to be formed into the required shape, one or both tools of the second press may be heated when the veneer sheet is pressed. One or more tools of the first press may also be heated so as to reduce the rigidity of the metal blank when it is being pressed.

10

For simplicity, the first and second press may respectively cut the blank and the veneer sheet along two sides only rather than along the entire periphery of the panel. Sheets of metal and veneer may then be dispensed from a roll and pre-cut to the required length before being pressed and formed into veneered panels.

The shaped and trimmed blank from stage a) in the aforementioned method is a commercial item that may be sold and manufactured separately.

Accordingly, a second aspect of the invention provides a shaped and trimmed blank suitable for being coated with a veneer sheet, the blank being shaped and trimmed by pressing the blank between an upper tool and a lower tool of a first press, wherein the lower tool has a lower pressing surface comprising at least two flat peripheral regions, such that when the press is closed, the blank is trimmed along at least two edges by the interaction of the upper tool surface and the flat peripheral regions of the lower tool surface, and the blank forms flat end faces each being bounded on one side by a trimmed edge, the flat end faces being substantially parallel with one another.

attaching the panel to a motor vehicle assembly. The outwardly facing surface of the metal sheet 14 is completely covered with a sheet of wood veneer 16 when viewed in cross section as shown in Figure 1.

5

When the veneered panel 10 is mounted on a surface 12, only the outwardly facing side of the panel 10 having the veneer sheet 16 is visible, and the inwardly facing side is hidden from view.

10

The curvature of the veneered panel 10 increases near the edges of the veneered panel where the panel curves inwardly towards the surface 12 and terminates in flat end faces 18 that lie parallel with one another against the surface 12. In Figure 1 the end faces 18 lie in the same plane since the surface 12 is flat, but the end faces 18 would lie in different planes if the surface 12 were stepped.

20 The sheet of veneer 16 extends to the end faces 18 in order to completely cover the metal sheet 14 from view, and so the end faces 18 each consist of an area of metal and an area of veneer.

25 Some of the stages involved in the fabrication of a veneered panel of the type shown in Figure 1 are shown in Figures 2 to 4. In the first stage of fabrication, a metal blank 22 is placed in a first press 20, between a lower tool 24 having a lower pressing surface 25 and an upper tool 26 having an upper pressing surface 27, such that the metal blank 22 rests on the pressing surface 25 of the lower tool 24 when the first press 20 is in the open position as shown in Figure 2. The metal blank 22 is wider than the lower tool 24 in the cross sectional direction of Figure 2, and so the edge

viewed in cross section, the blank forms substantially flat end faces 34 almost parallel with the flat side portions 30 of the lower tool 24 (see Figure 5). The so formed end faces 34 of the metal blank have

5 approximately the same width as the flat side portions 30 of the lower tool 24, and the angle between the end faces 34 and the flat side portions 30 is typically less than five degrees.

10 To prevent excessive pressure being applied at the point of contact between the upper and lower tools 24,26, blocks 32 situated remotely from the pressing surfaces 25,27 are provided to bear the force between the tools 24,26 when they are brought into contact.

15 The blank 22 having been shaped in the way described above now has the shape of the metal sheet 14 shown in Figure 1 on which the veneer sheet 16 is to be affixed.

20 The next step is to remove the blank 22 (which will now be referred to as the metal sheet 14) from the first press 20 and place it in a second press 40 having an upper tool 46 with an upper pressing surface 47 and a lower tool 44 with a lower pressing surface 45.

25 The lower pressing surface 45 of the second press 40 has the same shape as lower pressing surface 25 of the first press 20 in order to accept the pressed metal sheet 14, but the lower tool 44 has flat side portions 30. 31 that extend beyond the edge of the flat end faces 34 of the metal sheet 14 when the sheet 14 is on the lower tool 44, so that the metal sheet does not completely cover the lower pressing surface 45.

35 The upper pressing surface 47 of the second press 40

The sheet of metal 14 will normally be made of aluminium or an aluminium rich alloy.

5 The first and second pressing tools 20,40 as shown in figures 1 to 6 form at two edges of the veneered surface 10, but the pressing tools can be shaped to form the edge all the way around the veneered surface 10.

10 If a veneered panel 10 is made from a blank 14 that is cut to, the two dimensional shape of the panel 10 before the blank 14 is pressed, then once the blank has been pressed into a three dimensional shape, it is possible for the end faces 34 of the pressed blank to be at an
15 angle of about 120 degrees to one another rather than parallel as shown in Figures 7 and 8 (parts corresponding to parts in previous figures have been given the same reference numerals).

20 When a sheet of veneer 16 extending sufficiently beyond the pressed blank so as to cover its end faces 34 is pressed against the blank 14, then this can result in the end faces 18 of the so-formed veneered panel 10 having a recess (marked by a cross in Figure 7). This
25 recess can cause an adjacent part of the veneer sheet 16 to depart from the smooth shape of the pressing surface upper pressing surface 47, thereby producing a blemish on the visible part of the panel.

30 In contrast, the end faces 18 of the veneered panel fabricated according to the present invention has no substantial recess (the small recess seen in Figures 5 and 6 is unimportant), allowing the veneered panel 10 to have a smooth visible surface along its outer edge.

35 The veneered panel 10 can then be positioned such that

CLAIMS

1. A method of producing veneer faced panels, the method comprising the steps of:

5

a) shaping and trimming a blank by pressing the blank between an upper tool and a lower tool of a first press, wherein the lower tool has a lower pressing surface comprising at least two flat peripheral regions, and when the press is closed, the blank is trimmed along at least two edges by the interaction of the upper tool surface and the flat peripheral regions of the lower tool surface, such that the blank forms flat end faces each being bounded on one side by a trimmed edge, the flat end faces being substantially parallel with one another;

b) removing the blank from the first press and placing it on a lower tool of a second press, the lower tool having a lower pressing surface shaped to receive the blank after it has been pressed, wherein the lower pressing surface comprises at least two flat peripheral regions, such that when the blank is on the lower tool of the second press, the flat end faces of the blank lie against the peripheral regions of the lower pressing surface, the peripheral regions of the lower pressing surface extending beyond the trimmed edge of the blank;

c) superposing a veneer sheet on the blank such that the veneer overlaps at least two trimmed edges of the blank; and,

d) pressing the sheet of veneer against the blank by bringing the upper tool and the lower tool of the

7. A method of producing veneer faced panels as claimed in Claim 6, wherein the right angled edges of the lower tool interact with the flared edges of the upper tool and cut the sheet of veneer or metal blank when the upper and lower tools are brought together.

8. A method of producing veneer faced panels as claimed in any preceding claim, wherein the blank is made from metal.

9. A method of producing veneer faced panels as claimed in any preceding claim, wherein the veneer sheet comprises at least two layers, one of which is a layer of adhesive to be situated next to the metal surface when the veneer is placed over the metal for pressing.

10. A method of producing veneer faced panels as claimed in any preceding claim, wherein one or both tools of the first or second press are heated.

11. A method of producing panels as claimed in any preceding claim, wherein the first and second press respectively cut the blank and the veneer sheet along two sides.

12. A shaped and trimmed blank suitable for being coated with a veneer sheet, the blank being shaped and trimmed by pressing the blank between an upper tool and a lower tool of a first press, wherein the lower tool has a lower pressing surface comprising at least two flat peripheral regions, such that when the press is closed, the blank is trimmed along at least two edges by the interaction of the upper tool surface and the flat peripheral regions of the lower tool surface, and

ABSTRACT

FABRICATION OF VENEER FACED PANELS

5 This invention relates to the fabrication of veneer faced
panels (10), in particular veneer faced panels (10) for
mounting in the passenger compartment of a motor vehicle.
A blank (14) is shaped and trimmed by placing it in a
first press (20) having a tool with a flat peripheral
pressing surface (30) and then placed in a second press
10 (40) also having a flat peripheral pressing surface (31)
following which a layer of veneer (16) is placed over the
blank (14) before being pressed against the blank (14),
so that a veneered panel (10) is formed with flat and
parallel end faces (18).

15

Figure 4



1/4

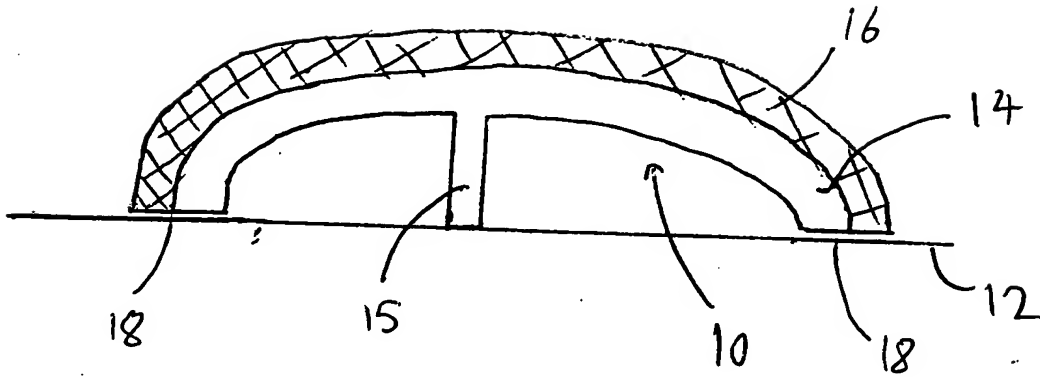


Fig 1

2/4

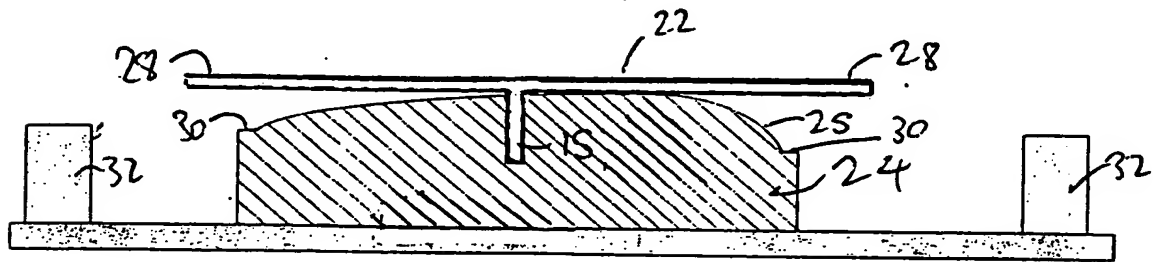
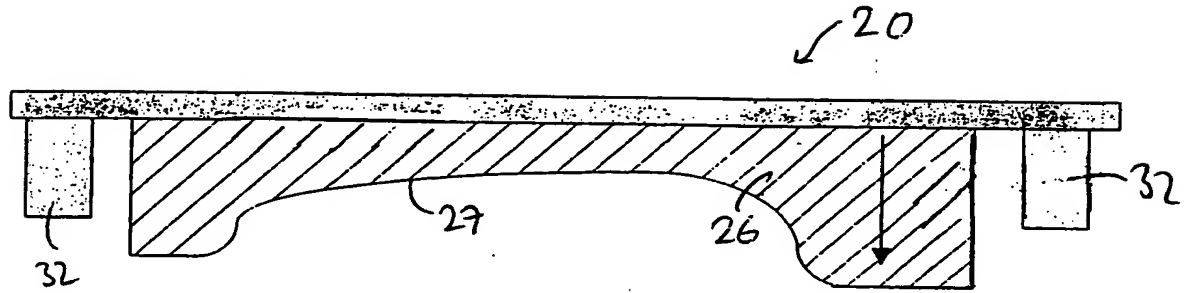


Fig. 2

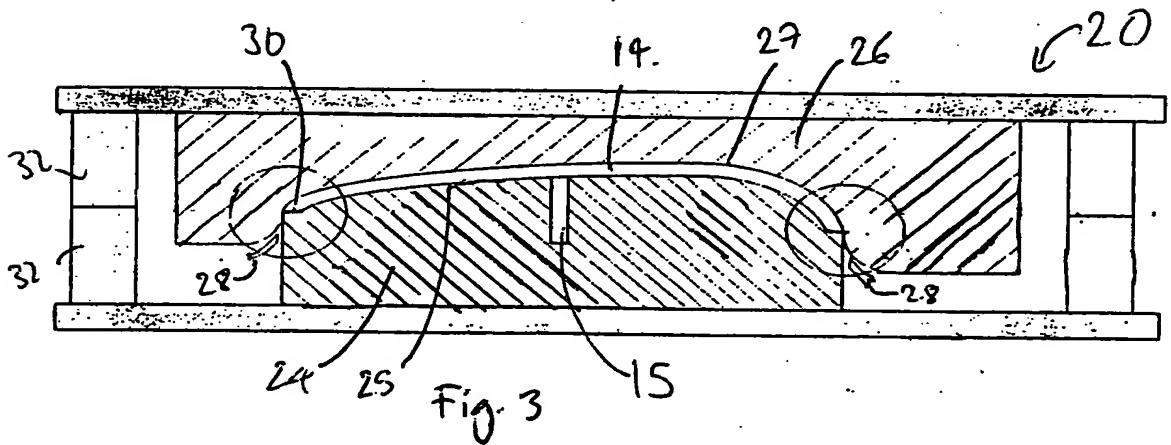


Fig. 3

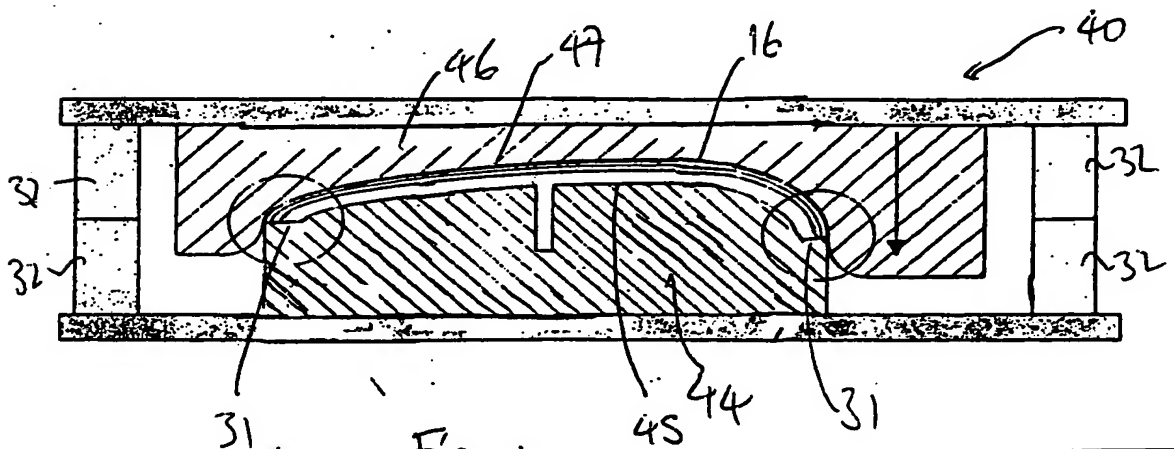


Fig. 4

$\frac{3}{4}$

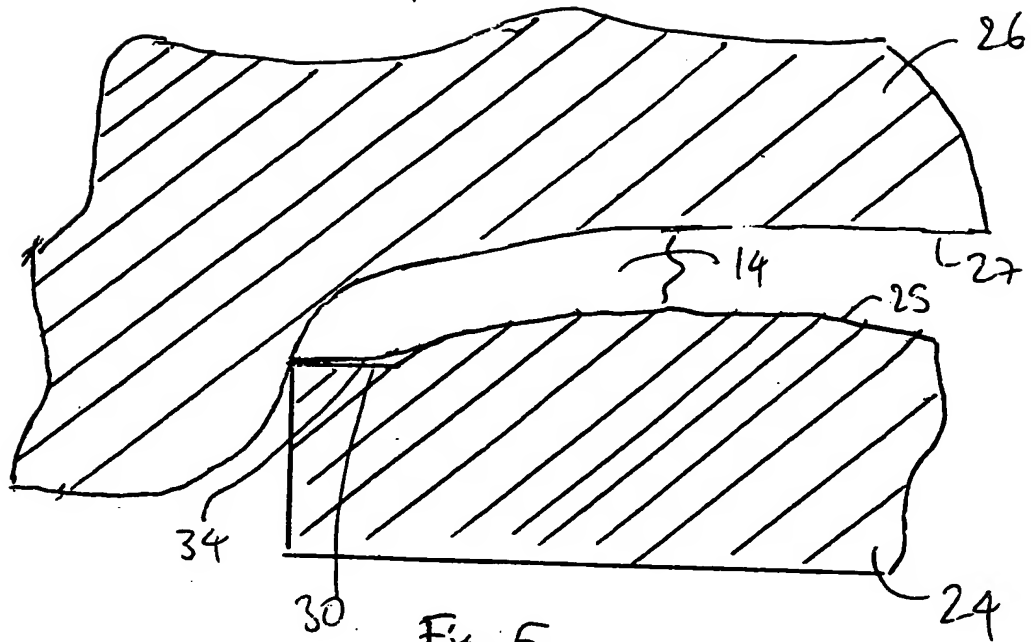


Fig. 5

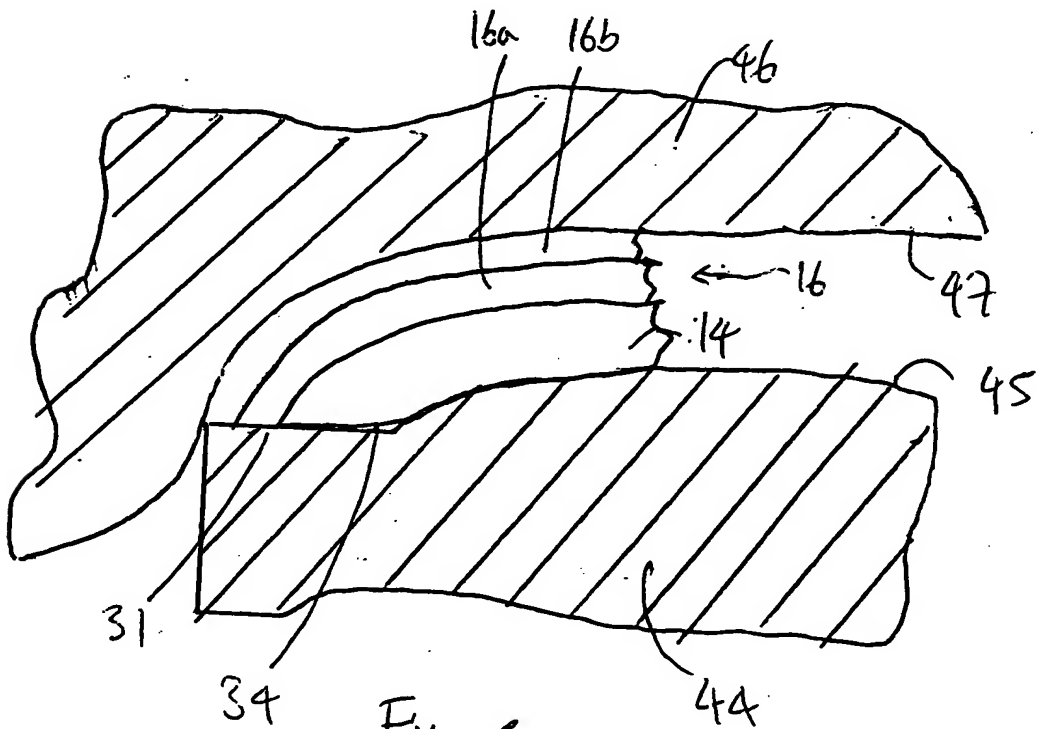


Fig. 6

$\frac{4}{4}$

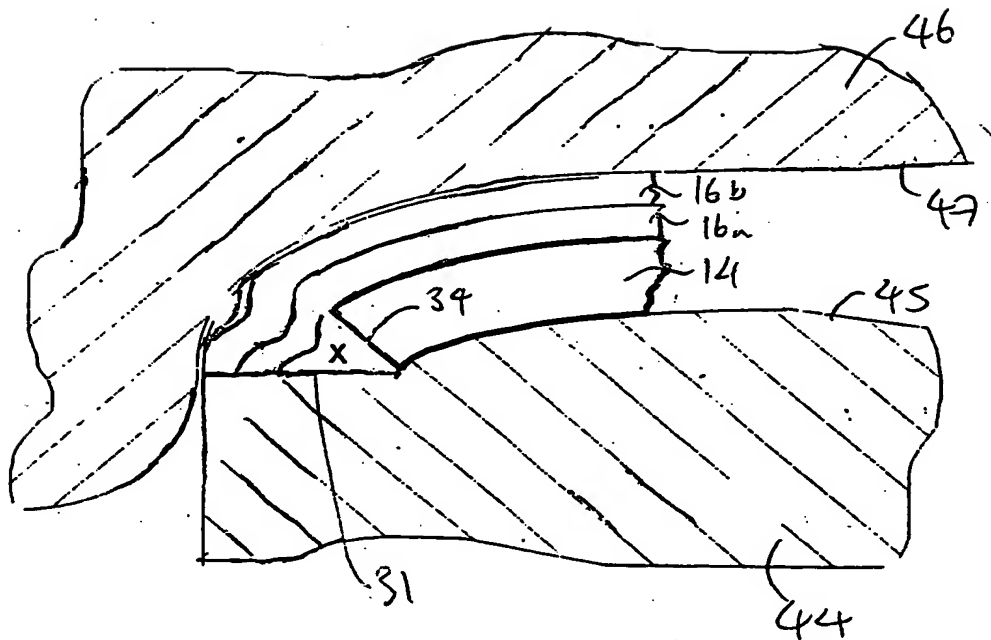


Fig 7

